series, but gas passed in addition over heated platinised asbestos, gave 1·42905. The final mean of the fifteen observations of the first and third series was 1·42906. —Eug. **Wourtzel**: The decomposition of hydrogen sulphide by the radium emanation. The amount of gas decomposed was studied with respect to the effects of temperature and pressure.—Paul **Pascal**: Complex salts of uranium.—N. D. **Costeanu**: The action of carbon dioxide upon boron sulphide. The reaction was found to correspond to the equation

$$B_2S_3+3CO_2=B_2O_3+3CO+3S.$$

—Albert **Granger**: The colorations arising in glasses containing copper. A satisfactory blue colour is obtained in a glass containing only 0·05 CuO for one molecule of the base. A larger proportion of copper gives a greenish shade, especially in glass with a high proportion of alkalies.—F. **Bodroux**: The catalytic esterification in aqueous solution of some primary alcohols of the $C_nH_{2n+2}O$ series.—H. **Mech**: The products of condensation of the nitro-benzyl chlorides with acetylacetone, methylacetylacetone, and the cyanacetic esters.—Roger **Douris**: The action of mixed organo-magnesium derivatives upon the dimeric aldehyde from crotonaldehyde.—MM. **Desgrez** and **Dorléans**: The antagonism of the properties of guanine and adrenaline. The toxicity of adrenaline is diminished to a certain extent by the action of guanine, the adrenalinic glycosuria being notably reduced.—R. **Fosse**: The identification of urea and its precipitation in extremely dilute solutions. The reagent proposed is xanthydrol. This precipitates dixanthylurea, of high molecular weight. In a solution containing one-millionth part of urea, 0·01 mgr. can be detected microscopically. From 0·03 to 0·05 gram of urea can be separated and identified by analysis. Details of the technique are given.—Henri **Piéron**: The mechanism of the chromatic adaptation of *Idotea tricuspidata*.—Albert **Michel-Lévy**: The limiting age of the granite in the Mâconnais and Beaujolais mountains.—O. **Mengel**: The eastern termination of the synclinal of Mérens-Villefranche.—G. **Depape**: The presence of *Ginkgo biloba* (*Salisburya adiantifolia*) in the Lower Pliocene of Saint-Marcel-d'Ardèche.—Arthur L. **Day** and E. S. **Shepherd**: Water and magmatic gases. It has been stated that the gases emitted by the crater of Kilauea do not contain water. Gas samples were taken directly from a lava fountain at the bottom of the crater, and proved to contain steam in considerable quantity, in addition to large proportions of sulphur dioxide and carbon dioxide. Carbon monoxide, hydrogen, and nitrogen were also present in these gases. Analyses are also given of the solid matter contained in the water deposited from the gas samples.

CAPE TOWN.

Royal Society of South Africa, October 15.—The president in the chair.—R. **Marloth**: A new mimicry plant (*Mesembrianthemum lapidiforme*). In summer the plant consists only of two fleshy bodies (the leaves), which are half buried in the sand. Each leaf is about 1 in. to 1½ in. in length and width, shaped like a tetrahedron with blunt edges and angles, and brownish-red in colour, like the angular fragments of stone among which the plant grows. It is consequently very difficult to detect even in localities where its occurrence is known. In spring the plant produces two flowers, one at each side, which are joined to the parent plant by a very thin connection. The ripe seed vessel is consequently easily detached at this spot and can be carried away by the wind—a mode of dispersal unique among the nearly 400 species of the genus Mesembrianthemum. The plant was discovered in the Ceres Karoo by Capt. Edward Alston.—J. P. **Dalton**: An experimental modification of van der Waals's equation. The *a* of van der Waals's equation is considered to be a function of the temperature only, and the *b* to be independent of the temperature. The function is then determined for a typical normal substance (*iso*pentane) from the experimental isothermals, and it is shown that the law $\log a=\alpha+\beta T$ is accurately obeyed. The equation is modified accordingly. The new saturation constants are obtained, and the modified vapour pressure curve is found to represent experimental results for both normal and abnormal substances much more closely than the original. The new values agree well with the van der Waals vapour pressure formula, and the value of the constant at the critical point is practically equal to that which is given by carbonic acid and by *iso*pentane. The modified equation is also used with quite satisfactory results for the calculation of latent heats and also for obtaining the curve of inversion of the specific heat of saturated vapours.—J. R. **Sutton**: Barometric variability at Kimberley and elsewhere. An attempt to determine working constants which shall represent the "cylonic activity" at various places in South Africa and such other places outside as have available information regarding the barometer. Tables are given showing the monthly mean constants, with maximum and minimum values, or barometric variability. One deduction is that the "equinoctial gales," so far as barometric changes can represent them, have no existence in fact.

BOOKS RECEIVED.

Les Zoocécidies des Plantes d'Europe et du Bassin de la Méditerranée. By C. Houard. Tome Troisième. Supplément 1909–12. Nos. 6240 à 7556. Pp. 1249–1560. (Paris: A. Hermann et Fils.) 10 francs.

Die Stammesgeschichte der höheren Pflanzen. By Dr. W. Breitenbach. Pp. 77. (Brackwede i.W.: Dr. W. Breitenbach.) 1.50 marks.

Vergleichende Physiologie und Morphologie der Spinnentiere unter besonderer Berücksichtigung der Lebensweise. By Prof. F. Dahl. Erster Teil. Pp. vi+113. (Jena: G. Fischer.) 3.75 marks.

Handbuch der Vergleichenden Physiologie. Edited by H. Winterstein. Band iii. Erster Heft. (Jena: G. Fischer.) 5 marks.

Handwörterbuch der Naturwissenschaften. Edited by E. Korschelt and others. 62 and 63 Lief. (Jena: G. Fischer.) 2.50 marks each Lief.

The Romance of the Newfoundland Caribou. By A. A. Radclyffe Dugmore. Pp. viii+191+plates. (London: W. Heinemann.) 12*s*. 6*d*. net.

The Waters of the North-Eastern North Atlantic: Investigations Made During the Cruise of the *Frithjof*, of the Norwegian Royal Navy, in July, 1910. By F. Nansen. Pp. 139+xvii plates. (Leipzig: Dr. W. Klinkhardt.)

The Nummulosphere. By R. Kirkpatrick. Part 2. The Genesis of the Igneous Rocks and of Meteorites. Pp. xv+plate. (London: Lamley and Co.) 1*s*. net.

Principles and Methods of Teaching Geography. By F. L. Holtz. Pp. xii+359. (London: Macmillan and Co., Ltd.) 5*s*. net.

Practical Surveying and Elementary Geodesy. By Prof. H. Adams. Pp. xii+276. (London: Macmillan and Co., Ltd.) 4*s*. 6*d*.

Manures and Fertilizers. By Dr. H. J. Wheeler. Pp. xxi+389. (London: Macmillan and Co., Ltd.) 7*s*. net.

Lepidoptera Indica. By Col. C. Swinhoe. Part cxxii. Pp. 313–336+plates. part cxxiii. Pp. 337–364+x. (London: L. Reeve and Co., Ltd.) 10*s*. plain; 15*s*. coloured; and 15*s*. respectively.

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Die Oekologie der Pflanzen. By Dr. O. Drude. Pp. x+308. (Braunschweig: F. Vieweg und Sohn.) 10 marks.

A National System of Education. By J. H. Whitehouse. Pp. 92. (Cambridge University Press.) 2*s.* 6*d.* net.

Smithsonian Miscellaneous Collections. Vol 61, No. 1, The White Rhinoceros. By E. Heller. Pp. 77+31 plates. (Washington: Smithsonian Institution.)

Annual Report of the Board of Regents of the Smithsonian Institution for the Year Ending June 30, 1912. Pp. xii+780+plates. (Washington: Government Printing Office.)

Text-Book of Paleontology. Edited by Prof. C. R. Eastman. Adapted from the German of Karl A. von Zittel. Second edition, revised and enlarged. Vol. i. Pp. x+839. (London: Macmillan and Co., Ltd.) 25*s.* net.

The Snakes of Europe. By Dr. G. A. Boulenger. Pp. xi+269+xiv plates. (London: Methuen and Co., Ltd.) 6*s.*

A First Numerical Trigonometry. By W. G. Borchardt and the Rev. A. D. Perrott. Pp. xi+159+xvii+xvii. (London: G. Bell and Sons, Ltd.) 2*s.* 6*d.*

Icones Orchidearum Austro-Africanarum Extra-Tropicarum; or, Figures, with Descriptions of Extra-Tropical South African Orchids. By H. Bolus. Vol. iii. Pp.+plates 1-100. (London: W. Wesley and Son.)

Die Atome. By Prof. J. Perrin. Mit Autorisation des Verfassers Deutsch herausgegeben von Dr. A. Lottermoser. Pp. xx+196. (Dresden and Leipzig: T. Steinkopff.) 5 marks

DIARY OF SOCIETIES.

THURSDAY, NOVEMBER 27.

ROYAL SOCIETY, at 4.30.—A Method of Measuring the Pressure Produced in the Detonation of High Explosives or by the Impact of Bullets: Prof. B. Hopkinson.—Gravitational Instability and the Nebular Hypothesis: J. H. Jeans.—The Diffraction of Light by Particles comparable with the Wave-length: B. A. Keen and Prof. A. W. Porter.—Note on the Colour of Zircons, and its Radio-active Origin: Prof. R J. Strutt.—The Influence of the Constituents of the Crystal on the Form of the Spectrum in the X-ray Spectrometer: Prof. W. H. Bragg.—The Analysis of Crystals by the X-ray Spectrometer: W. L. Bragg.—Ship Resistance: The Wave-making Properties of Certain Travelling Pressure Disturbances: Dr. T. H. Havelock.—The Mathematical Representation of a Light Pulse: Dr. R. A. Houstoun.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—The Characteristics of Insulation Resistance: S. Evershed.

CONCRETE INSTITUTE, at 7.30.—The Differential and Integral Calculi for Structural Engineers: W. A. Green.

FRIDAY, NOVEMBER 28.

JUNIOR INSTITUTION OF ENGINEERS, at 8.—Patent Protection: A. Abbey.

PHYSICAL SOCIETY, at 5.—The Expansion of Silica: Prof. H. L. Callendar.—The Thermal Expansion of Mercury and Fused Silica: F. J. Harlow.—An Experimental Method for the Production of Vibrations on Strings, Prof. J. A. Fleming.—A Double-fibre String Galvanometer: W. Apthorpe.

SATURDAY, NOVEMBER 29.

ESSEX FIELD CLUB (at the Essex Museum of Natural History, Stratford) at 6.—Autumn Botany at Clacton: C. E. Britton.—Report of Club's Delegate at the Meeting of the British Association at Birmingham, 1913: J. Wilson.—A Demonstration on the Nano-Plankton of Freshwater Ponds and Lake, as Revealed by the Use of the Centrifuge: D. J. Scourfield. The Occurrence of Rhaxella-chert in the Epping Forest Gravels: P. G. Thompson.—Notes on the Plant-seeds found during Excavation of the Romano-British Barrow on Mersea Island: S. Hazzledine Warren.

MONDAY, DECEMBER 1.

SOCIETY OF ENGINEERS, at 7.30—The Corrosion and Rusting of Iron: E. K. Rideal.

ARISTOTELIAN SOCIETY, at 8.—Feeling: Pror. J. A. Smith.

SOCIETY OF CHEMICAL INDUSTRY, at 8.—Use of Antiseptics for Soil Sterilisation Purposes: Dr. E. J. Russell and Mr. Buddin.

ROYAL SOCIETY OF ARTS, at 8.—Cantor Lecture—The Measurement of Stresses in Materials and Structures: Prof. E. G. Coker.

TUESDAY, DECEMBER 2.

RÖNTGEN SOCIETY, at 8.15.—Sterilisation of Milk by Electrified Gas: Dr. Hampson, Prof. W. G. Duffield, and T. Murray.—Radium-emanation Applicators: C. E. S. Phillips

ROYAL ANTHROPOLOGICAL INSTITUTE, at 8.15.—Japanese Minor Magic connected with the Propagation and Early Infancy of Children: W. L. Hildburgh.

INSTITUTION OF CIVIL ENGINEERS, at 8.—The Transandine Railway: B. H. Henderson.

WEDNESDAY, DECEMBER 3.

AËRONAUTICAL SOCIETY, at 8.30.—The Coming Airship: Captain C. M. Waterlow.

GEOLOGICAL SOCIETY, at 8.—(1) A Contribution to our Knowledge of the Geology of the Kent Coalfield; (2) The Fossil Floras of the Kent Coalfield: Dr. E. A. Newell Arber.

ROYAL SOCIETY OF ARTS, at 8.—Perfumery: J. C. Umney.

SOCIETY OF PUBLIC ANALYSTS, at 8.—Sulphuretted Hydrogen from Artificial Graphite: W. H. Woodcock and B. Blount.—The Determination of Strychnine in the Presence of Quinine: C. Simmonds.—The Rate of Liberation of Hydrocyanic Acid from Linseed: S. Collins and H. Blair.—The Composition of Palm-Kernel Oil: G. D. Elsdon.

ENTOMOLOGICAL SOCIETY, at 8.—New South American Butterflies: W. F. H. Rosenberg and G. Talbot.

THURSDAY, DECEMBER 4.

ROYAL SOCIETY, at 4.30.—*Probable Papers:* (1) A Method of Studying Transpiration; (2) The Effect of Light on the Transpiration of Leaves: Sir Francis Darwin.—Dimensions of Chromosomes considered in Relation to Phylogeny: Prof. J. B. Farmer and L. Digby.—The Process of Calcification in Enamel and Dentine: J. H. Mummery.—The Optimum Temperature of Salicin Hydrolysis by Enzyme Action is Independent of the Concentrations of Substrate and Enzyme: A. Compton.—The Ratio between Spindle Lengths in the Spermatocyte Metaphases of Heliae Pomatia: C. F. U. Meek.—Egyptian Blue: Dr. A. P. Laurie, W. F. P. McLintock and F. D. Miles.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Electricity Supply in Large Cities: Dr. G. Klingenberg.

LINNEAN SOCIETY, at 8.—Wild Wheat from Mount Hermon, *Triticum dicoccoides* Koern: Prof. J. Percival.—Neurotes, a New Genus of Mymaridæ, from Hastings: F. Enock.—A Contribution to the Study of the Evolution of the Flower; with Special Reference to the Hamamelidaceæ, Caprifoliaceæ and Cornaceæ: A. S. Horne.—The Mollusca of the River Nile: Mrs. Longstaff.

FRIDAY, DECEMBER 5.

INSTITUTION OF MECHANICAL ENGINEERS, at 8.—Thomas Hawksley Lecture: Water as a Mechanical Agent: E. B. Ellington.

JUNIOR INSTITUTION OF ENGINEERS, at 8.—Presidential Address: Sir Boverton Redwood, Bart.

INSTITUTION OF CIVIL ENGINEERS, at 8.—The Liverpool Street Extension of the Central London Railway: H. V. Hutt.

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